Evaluation of Colon Dysfunction

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• There being no new or advanced technical aids to help the clinician in evaluating colon dysfunction, he must still depend on a careful history, knowledge of the patient, physical examination, which includes sigmoidoscopy, and a few appropriate diagnostic laboratory procedures to arrive at the proper diagnosis. With these means, it is possible to make a positive diagnosis of irritable bowel syndrome, and differentiate it from diverticulitis, ulcerative proctitis and polypoid disease.

RECTAL BLEEDING, passage of mucus, excessive intestinal gas, bloating, abdominal discomfort, rectal tenesmus, feeling of incomplete evacuation, change in character of stools, diarrhea, and constipation are complaints that prompt many patients to consult a physician.

How do we determine which patient has an irritable bowel, which has diverticulitis, or an ulcerative process, or polypoid disease? Certainly proper diagnosis cannot be arrived at simply by relying upon barium enema and other x-ray studies to distinguish organic from functional disease. Barium enema studies, while extremely helpful, are only about 85 per cent accurate in ruling out a carcinoma of the colon, are of little help in demonstrating a rectal carcinoma, and about 50 per cent accurate in differentiating between diverticulitis and carcinoma. The guaiac or benzidine stool examination for occult blood is worthless in evaluating a colon problem. Cellular studies of colon washings have not yet reached a practical stage.

Much has been written and said about the art of medicine, treatment of the entire individual and evaluation of how the patient's environment affects his health. Our forefathers in medicine called this "common sense."

Patients experiencing bowel dysfunction are frequently sensitive and fearful. They are positive that "something is wrong," and are willing to subject themselves to embarrassment, expense and discomfort to obtain aid. They soon sense and resent disinterest in a physician.

A positive approach and common sense are indispensable to the physician in making a diagnosis of an irritable bowel. This type of dysfunction is due to an over-stimulation and imbalance of the autonomic nervous system of the colon, resulting in increased peristaltic activity, spasm and excessive production of mucus. Other systems too are involved in this same autonomic nervous system disturbance. Further, the patient's personality makes him especially vulnerable to stress and tension. If we put all these factors together, we should arrive at a proper diagnosis.

Few entities give so many clues. In appearance the patients are dressed neatly, conservatively and without clash of color; tie, socks, shoes and accessories all match. Their manner is polite, they desire to make a good impression, and when in the hospital their bedside-table and immediate area are kept neat and orderly. A few questions indicate that this physical orderliness is also true at work and at home. Those in the business world usually handle jobs of responsibility and detail. The housewife may be active in community work, as well as anxious about her children. When these people assume a task they want to do it well. This would apply even to relatively simple chores, such as preparing a dinner for close friends.

The history of an autonomic bowel dysfunction usually follows a pattern having the following general characteristics: The patient has had similar distress before, perhaps less severe or protracted but rather sudden in onset, with intervals of complete relief. Not infrequently the pattern is so exact that it can be related to job deadlines, weekends, menstruation, family events, visits and similar happenings. When diarrhea is present it is primarily a morning diarrhea, for at night the autonomic nervous system rests too. (When a patient is awakened from a sound sleep because of abdominal distress, there is good cause.) An irritable bowel may cause the passage of gross mucus, either thick or watery but not bloody; the presence of blood signifies mucosal ulceration.

As the colon is not the only system involved by this autonomic nervous system imbalance, the history invariably includes other signs of anxiety—globus, dry mouth, palpitation, headaches, backaches and sudden fullness after eating. In addition, there is frequently history of previous gallbladder, gastric, pelvic or anorectal operation without any apparent improvement of the complaints.

Upon physical examination, signs of general ten-

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sion usually are noted, occasionally dermographia and sometimes a rope-like sigmoid colon. With sigmoid spasm, reflux fullness of the ileocecal area is not uncommon. Voluntary spasm of the rectal sphincter is often a feature. In many cases a sigmoidoscope can be inserted with ease for about 15 to 18 centimeters, then suddenly spasm and decided reaction on the part of the patient are encountered. A barium enema study will often demonstrate signs of colon irritability and spasm.

The diagnosis of an irritable bowel should not be made unless there are other signs and symptoms of autonomic nervous system dysfunction in a susceptible patient. If symptoms persist or if the pattern changes, review of the entire intestinal tract is indicated. An irritable bowel does not preclude the development of carcinoma or diverticulitis.

Frequently confused with an irritable bowel syndrome is diverticulitis, which is becoming a problem of increasing magnitude in our aging population. Most persons over 40 years of age have diverticula. Many of them also have an irritable bowel. Diverticulosis and an irritable bowel, however, do not necessarily indicate diverticulitis. Too often this diagnosis is made on inconclusive evidence.

Diverticulitis is an extra or pericolic inflammatory reaction that usually involves the sigmoid colon and adjacent structures. As the process is mostly extracolic, the diagnosis is usually made clinically rather than by x-ray studies.

Certainly the diagnosis of diverticulitis is tenuous unless the patient has signs of an inflammatory process. These may include a tender, palpable mass, leukocytosis, fever, and evidence of peritoneal irritation. While bleeding may occur with diverticular disease of any type, the burden of proof is with the clinician who attributes bleeding to such a source. The author has on record more than a hundred cases of rectal bleeding initially thought to be due to diverticular disease but subsequently proved to result from a polyp or a carcinoma.

It is clinically most important to bear in mind that the inflammatory process in diverticulitis is extracolic. A high digital examination of the rectum and vagina are as important as the abdominal examination in detecting what is usually an abdominal and pelvic inflammatory process. Because it is an extracolic process, signs of involvement of the bladder and adjacent small bowel should be looked for. Diverticulitis is seldom evident on proctoscopic examination.

Partial colon obstruction or dysfunction is not infrequent with diverticulitis. However, it is difficult to obstruct the colon completely, and this seldom happens with diverticulitis. While it may appear contrary to fact, in my experience adjacent small bowel obstruction has occurred more frequently than large bowel obstruction in diverticulitis. For this and other reasons, there is an increased surgical awareness that proximal transverse colostomy has limited value in the treatment of diverticulitis. Carcinoma remains the most common cause of complete colon obstruction.

At times idiopathic ulcerative colitis presents a problem of differentation from an irritable bowel. There is little difficulty in recognizing the disease when all or a major portion of the colon is involved, but a not uncommon variant of ulcerative disease, termed "ulcerative proctitis" for want of a better name, is frequently overlooked. This form of the disease involves the rectum and on occasion the most distal sigmoid colon, the area that is supplied by the superior hemorrhoidal artery. As with chronic ulcerative colitis, this is an inflammatory-like mucosal submucosal process with myriads of tiny ulcerations that cause a rectal discharge of pus, blood, mucus and cellular debris. This material collects just above the rectal sphincter and causes rectal tenesmus and a rather constant feeling of incomplete evacuation. Frequently a paradox is present. The patient may speak of passing a formed stool, even with some mechanical difficulty, yet have diarrhea. The latter is due not to fecal material but to the discharge.

This anatomically limited ulcerative process, like the more universal colon type, has episodes of exacerbation and remission. While less violent, it seems more refractory to treatment. Furthermore, it may extend proximally to any level.

Only by proctoscopic examination can the diagnosis of ulcerative proctitis be established. Barium enema studies show only that there is no gross evidence of higher involvement, and frequently x-ray studies are entirely negative.

One must beware of making a diagnosis of any form of ulcerative colitis unless there is a transrectal discharge of blood, mucus, pus and cellular debris. A smooth contracted-appearing colon, demonstrated by barium enema study, may simply represent spasm. A disturbed mucosal pattern is the main finding of an ulcerative process.

It is impossible to describe with certainty the typical personality of a patient with ulcerative colitis. Appearance and personality seem to vary with the state and course of the disease.

Finally, whenever there is disturbed function, polypoid disease also has to be considered. An adenomatous polyp or an adenocarcinoma have one common sign: rectal bleeding. Every effort should be made to establish the source of transrectal bleeding. An irritable bowel is not *per se* a source of bleeding.

Further, although every adult has hemorrhoids, this does not necessarily mean that they have bled.

A simple rule to follow is that every patient who has rectal bleeding has polypoid disease until proved otherwise. Certainly the passage of dull to dark red blood, bloody mucus, blood clots or blood mixed in the stool indicates a source higher than hemorrhoids.

Many patients and a few physicians have the mistaken impression that the presence of a carcinoma automatically causes pain, decided loss of weight or change in the patient's general appearance. Were we to rely entirely on this for diagnosis, carcinoma often would go undetected. Quite as important as thorough investigation of bleeding is attention to changes in bowel habits, which when due to a colon carcinoma are usually insidious but progressive. This is in contrast to the varying bowel pattern associated with irritable colon. Questioning of a patient should be directed toward eliciting family history of colorectal carcinoma. Finally, another suggestion of polypoid disease is the presence of various external skin lesions. The squamous epithelium of skin is said to mirror the inner mucosal epithelium.

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